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THE HORN SPEAKER

MORE AREA OF EASY TO READ CLASSIFIED ADS THAN ANY OTHER OLD RADIO PUBLICATION

Development of Broadcast Receivers

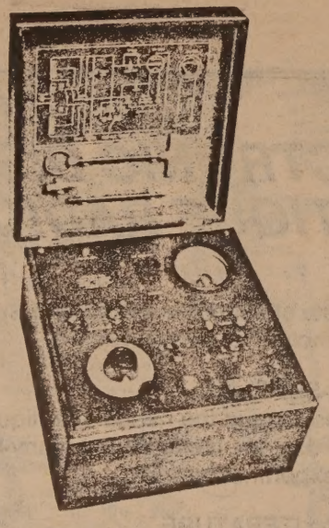
RADIO NEWS FOR DECEMBER, 1930

MR. THIESSEN, an engineer with the General Radio Company of Cambridge, Mass., has been able to draw on the long experience of his company in its work of supplying the laboratories and servicemen with all kinds of precision test equipment. In this article Mr. Thiessen succeeds in painting a word picture of the early history of receiver testing contrasted with the present-day trend. Servicemen particularly will find this discussion of value because they will appreciate the exactness of today's test methods only in the light of their development.

FOR a long time after the first works of Hertz were published showing that electrical power could actually be transmitted through space without connecting wires, physicists and experimenters, greatly interested, tried various systems for the transmission and reception of these wireless waves as a laboratory experiment.

At first the mere repeating of the Hertzian experiments was considered to be quite a feat. Marconi was one of the first to appreciate the great commercial possibilities of the new art and he and his associates worked to find some practical means to transmit and receive the energy by wireless, which when properly coded would give them a new system for the transmission of intelligence. One of their most important contributions was the coherer, which was by far the most sensitive detector of the wireless signals devised up to that time. The transmitting systems depended entirely on brute force methods to get through. Huge, high-powered installations developing enormous voltages across a spark gap, which, connected to all manner of large and complicated antenna systems, were considered essential.

Although the general theory concerning these waves was known and accepted, methods of actually measuring what was going on were still unknown. The lack of measuring tools retarded the work to a great extent and things progressed on a more or less cut-and-try basis. Gradually, however, the nature of the problem became better and better understood. The frequencies involved were so much higher than any previously used in electrical work that a new technique of measurement had to be evolved. As these problems were gradually solved the art progressed until quite reliable communication up to several hundred miles became common. With the introduction of Poulson Arc and the high frequency Alexanderson alternators, which produced true undamped oscillations, the maximum transmitting range was increased until transoceanic handling of messages became a commonplace. So far, no one had become seriously interested in the transmission of the voice by wireless, and the major effort was still for more reliable point-to-point communication by code.



Mutual conductance is the best figure of merit of a vacuum tube. The instrument shown at the right measures the mutual conductance of any of the UX or UY tubes. When the bridge is balanced the mutual conductance may be read directly on the scale

The discovery of the vacuum tube opened up new lines of thought and development. This device was an incomparably more stable and satisfactory oscillator, and more sensitive detector and amplifier for the high frequency wireless signals than anything known up to this time. Its introduction encouraged the development of the wireless telephone tremendously and in 1915 the engineers of the Bell System established voice communication between Montauk Point, L. I., and Wilmington, Delaware.

It was not until 1920 that the idea of public broadcasting of program amusements was conceived. These broadcasts were designed to stir the public interest in radio and to create a market for receiving sets.

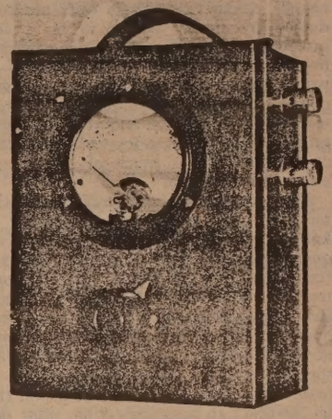
The first sets were cumbersome, bulky, complicated and inconvenient to use. They were all adaptations of the various sets that had been used previously for the reception of code.

The three important qualities that are now looked for in receiving sets are sensitivity, selectivity, and quality. The last two of these were utterly neglected in those days when sensitivity was the great consideration.

The first broadcast receiving sets were nearly all hand made, and were mostly built by amateurs who were curious to hear the experiments being carried on by the pioneer broadcasting stations such as KDKA, WJZ and WGY. These early sets were constructed of such parts as could be gotten together easily out of the usual material lying around an amateur's laboratory. No one ever heard of the refinements of good quality of reception, and simplicity of operation which came later.

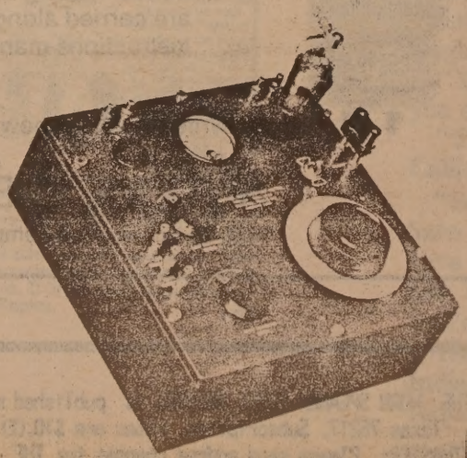
The interest in broadcast reception spread, and soon kits of knockdown sets were sold to a large and avid public who were beginning to become conscious of the entertainment value of some of the broadcast programs. Between 1922 and 1925 the set building craze reached its height and everyone was constructing his own receiver, being his own designer and service man.

At about this time a few manufacturers began to make completely assembled



An ohmmeter is a most useful device for continuity tests and for checking the values of the various resistors in receivers. The one shown here reads from 0 to 10,000 ohms

The General Radio type 360 test oscillator (at left) delivers a properly modulated radio frequency which makes possible tests on the alignment and selectivity of the receiver. By turning a switch a second oscillator is started which provides frequencies from 175-180 kilocycles for testing the intermediate amplifiers in superheterodyne receivers



sets. In order to compete with the popular kits and homemade outfits that were already in such wide use, they began the development of a product which would be superior in performance and simple of operation. To this end they organized engineering laboratories. Many of the laboratory instruments of measurement which are in common use now had not been developed at that time. Great progress was made under these handicaps, however, and in a short time the majority of broadcast listeners were buying their sets ready-made.

The greatest emphasis in the design of receivers was still on greater sensitivity, but as the number of broadcast stations began to multiply it became obvious that more selectivity was necessary for satisfactory reception. All kinds of circuits were tried but the best for all-around work seemed to be the multiple tuned stage r.f. amplifier followed by a detector and one or two stages of audio amplification. This system with variations is still in general use. Some sets do all of the tuning in a pre-selector circuit followed by an aperiodic amplifier.

In this article the author traces the change which has taken place during the last eight or ten years in receiver design and testing. Then, it was thought satisfactory to give the receiver the most perfunctory of tests, if any at all. Today, due to the exacting conditions which a receiver must meet, manufacturers must necessarily perform accurate tests with precision measuring instruments so that the purchaser will be assured of the receiver's sensitivity in microvolts per meter, its band-pass qualities and its overall audio-frequency response

By Arthur E. Thiessen*

Others use the superheterodyne by means of which the received broadcast signal is heterodyned down by a local variable frequency oscillator and amplified at a lower frequency, for example 175 kilocycles, by an amplifier tuned to this frequency only.

Telephone engineers had been working for a long time on the study of speech and its electrical reproduction. As the demand for better quality of reception grew, radio engineers drew on this fund of knowledge in order to help them to improve the voice frequency response of receivers.

However much engineering development the manufacturer of radio receivers expends on its design, there remains the problem of comparing the performance of the quantity-produced unit with that of the laboratory model. Without rigorous inspection some defective units are likely to reach the user, which causes expensive replacements and is bad for the name of the manufacturer.

It is usual to check the component parts before assembly and follow this by supplementary tests on the completed chassis. Sometimes these tests are conducted by simply tuning in on a few broadcasting stations and judging by ear how it works. This try-it-and-see-if-it-works sort of test is rapidly becoming obsolete. Many manufacturers are installing very complete and accurate apparatus to conduct these tests in such a way as to eliminate as much of the human element as possible.

Tests of the overall sensitivity of the receivers are made by introducing a known amount of modulated radio-frequency voltage into the set at the antenna terminals exactly as would be gotten from a broadcasting station, except that the modulation is at only one frequency. The output of the set is connected to a meter instead of to the loud speaker, and the actual output power is read. The input is held constant and the set, in order to pass inspection, must deliver a definite predetermined output power. Inspectors are able to make rapid and most exact tests for sensitivity on the completed chassis in this way.

The RCA-Victor Company in Camden, New Jersey, has developed a means by which its operators can align the coils and condensers of the intermediate (175 KC) frequency amplifier visually. That is, the resonance curve of the coil and condenser are projected on a screen and the operator adjusts the coils until the peak of the resonance curve falls on a line that marks the point of the proper resonant frequency. (Mr. Fleming describes the RCA-Victor test procedure in another article in this issue.—Ed.)

The audio amplifier is a very important part of the receiver, since its performance determines in large part the quality of output of the receiver. There has been quite a concentration of effort recently in the development of satisfactory amplifiers and the performance tests on these units are quite important. Usually the tests are made to determine the response of the amplifier over the voice frequency band; and to this end devices have been evolved which enable an inspector to make these tests very speedily and accurately.

As a result of all of this development work and the careful examination of the complete receivers many of the receivers of today are very high grade. Like any other intricate piece of machinery they are apt to develop troubles after a time in service, due to, perhaps, the deterioration of a part, damage in shipment, or mishandling by an inexperienced owner. To correct these troubles the radio serviceman has become an important figure. He must understand the tests that have been given to a receiver, and what the manufacturer is trying to accomplish by them, in order to intelligently correct troubles.

Any number of tools are now at the disposal of service men to help in running down and correcting troubles. A few of these are the ohmmeter, to check the values of the various resistors; the test oscillator, which is essentially a small portable broadcasting station by means of which the serviceman has at his disposal a radio signal at a known frequency and constant amplitude to enable him to properly align the tuning units, to set the tuning scale; and to make selectivity tests; set analyzers which provide a means for determining the voltages and currents in the circuits; tube testers which measure the characteristics of the tubes and enable him to locate defective and worn-out tubes. These are only a few of the instruments now on the market, and others are being constantly developed to make the increasingly complicated tests necessary as the art of receiver design advances.

*Engineer, General Radio Co.

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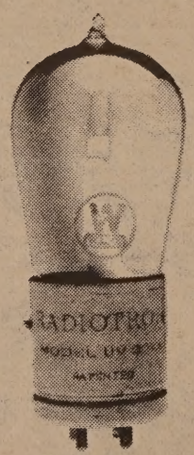

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WILL ROGERS

Quotes from P. J. O'Brien's book, WILL ROGERS, 1935

International News Photos, Inc.

Franklin D. Roosevelt, James Roosevelt, Senator McAdoo, and Chairman James A. Farley, enjoying Rogers' humor at the Democratic Convention in Chicago.

DID'JA KNOW?
THE WORLD'S GREATEST COWBOY — HE WAS ALL OF THAT. COMING FROM OKLAHOMA, HE SHIPPED TO SOUTH AMERICA AND PUNCHED COWS IN THE PAMPAS, FOR 4 DOLLARS PER MONTH! LATER, HE COWPUNCHED IN AUSTRALIA AND AFRICA.
WILL ROGERS!
IN HIS FIRST APPEARANCE IN NEW YORK WITH A WILD WEST SHOW HE TOSSED TWO ROPES — ONE CAUGHT THE HORSE, THE OTHER CAUGHT THE RIDER — HE DID IT SO EASILY THE NEW YORK AUDIENCE DIDN'T GET IT.
THE HOMESPUN PHILOSOPHER — HE CLAIMED HE WAS "IGNERANT," REALLY HE WAS ONE OF THE MOST INTELLIGENT MEN IN THE U.S.
— AND WILL, THE AIR'S MOST TRAVELLED PASSENGER, CONSIDERED WILEY THE TOPS!
HE WAS A SOFT TOUCH — NO COWBOY WAS EVER REFUSED A TOUCH. HIS POCKETS WERE LINED WITH BILLS FOR HIS PALS.
STOOKIE ALLEN

This cartoon by Stookie Allen appeared in a recent edition of the New York *Daily Mirror*. It attracted universal attention and admiration. The Smithsonian Institution at Washington requested of the artist the original drawing to be preserved among its archives. It is an excellent portrayal of the life of Will Rogers.

1935

ROGERS ON THE RADIO

"Nothing that makes people acquainted makes friends. If somebody invented something where nobody knew anything about anything, that would be really a forward step in world peace.

"You never argue with a woman unless you are married to her. Nations never fight unless they know each other. But what would we do without a radio? At any hour of the day or night, tune in and somebody is telling you how to live, how to vote, how to drink, how to think, when to wash your teeth, when to wash your hair, when to cut your whiskers, when to see your doctor, and how to see your doctor, and when to see your priest, and when to see your preacher, and how to put on fat, and how to take off fat, and how to make the skin stay white and how to make it stay black.

"Honest, no other nation in the world would stand for such advice as that. But we do, and we like it. So the only thing that can make us give up our radio is poverty. The old radio is the last thing moved out of the house when the sheriff comes in.

"It's an invention that has knocked nobody out of work and that gives work to many people. That is something you can't say for many inventions. So, as bad as it is, I don't know, it is the best invention I think that has ever been."

FROM A FINAL BROADCAST

For one of his final broadcasts over a nation-wide network, Will Rogers visited Sacramento, California's capital, at a time when the Legislature was about to be adjourned for lack of funds.

"They just get paid for so many days, and then the money runs out," laughed Will. "There ain't nothing will dampen a man's public spirit more than to cut off his salary, you know.

"A lot of States have tried burnin' down the Capitol to get 'em out, but this way that California's got is the best way."

Commenting on the possibility that Roosevelt might intervene, he continued, "He kind of hates to see any place close down, so I wouldn't be surprised if he don't keep this thing going right on through, you know—like he does the CCC camps. He does that to keep the boys off the streets, and he's liable to give 'em money out here just to keep these State Senators off the same places."

A recent change in California's marriage laws provided him with an opportunity to create a good laugh.

"You know, when you got married in this State—you used to give three days' notice.

"That was longer than most of the marriages in California was lasting.

"So they did away with that. So now you don't have to file anything at all. In fact, you don't have to give your right name, according to this new law. You just pay a small amusement tax, that's all."

The California Legislature had voted to allow the Indians liquor, and Rogers, always proud of his Indian blood, was much amused.

Keystone View Co.

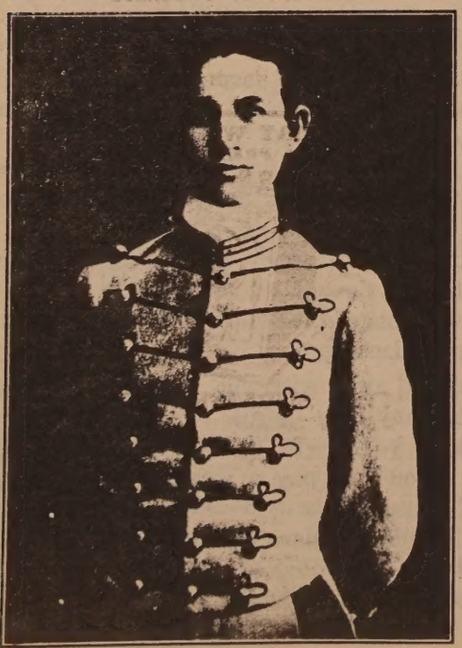
Back in 1904, Will Rogers made his first appearance on the New York stage as a gum-chewing, wisecracking cowboy.

"They passed one here to give the Indians their liquor. I don't mean you actually give 'em liquor but they're allowed to git it if they can. They're allowed to buy it.

"One old California cow-puncher from some county put that over. He told them we ought to give the Indians something back—the land or the liquor—so they compromised on the liquor. We kept the land and gave 'em the liquor. Lo, the poor Indian! The Indian, he's a ward to the Government, but we all are now. Everybody's an Indian."

That led to the latest news about Government relief grants to the States and Rogers congratulated Texas on drawing the "Grand Prize."

"Twenty-nine millions dollars last week—Texas did; New York got next prize of $24,000,000. Pennsylvania got third with $23,000,000. And they was all Republicans. Now I think that speaks awfully well of the Democrats. They're not going to let even a Republican starve."



International News Photos, Inc.

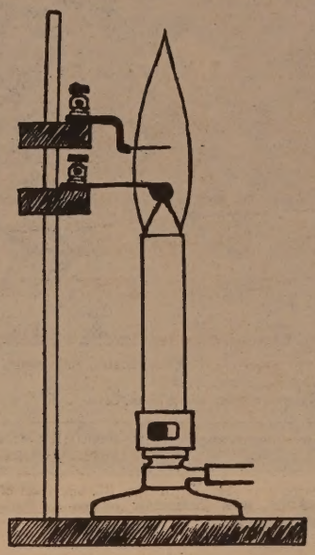
Will Rogers as a cadet at the Kemper Military Academy at Boonville, Mo.

FOR YOUR COLLECTION OR MUSEUM

An Unusual Oscillation Detector

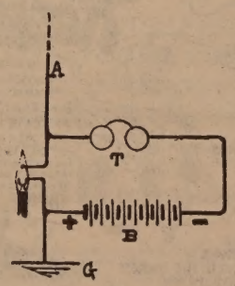
By John L. Hogan, Jr.

At the present time a great deal of attention is being paid to wave detectors, or, in other words, to devices which will respond to high frequency electrical oscillations. It is possible that too much stress is being laid upon the development of this element of all wireless systems,



and that in the excitement of producing "new receivers" more important improvements are being overlooked. However, be that as it may, interest now seems to center on detectors, so a note on the application of a novel principle to them should not pass without attention.

In 1905-1906 the writer conceived the idea of using a conducting *gas* as a detector, it seeming that, because of the delicacy of a column of conducting gas a very sensitive apparatus might be produced, and that, on account of the perfect "healing" action, the detector would be very constant (if properly designed). A few experiments were performed, when it was found that the same ground had been previously covered, and the tests were not continued. However, an opportunity of observing the beautiful phenomena at first hand was had, and, while the detector now to be described is at present of little practical value, it is of great interest as the progenitor of the "Audion" and offers a fascinating field for experimental work.



The type of the original hot-gas detectors probably most worthy of description is that using a conducting flame as its sensitive element and which has been called the Flame-Audion. Essentially this consists of a screened flame made conductive and having two electrodes projecting into it.

In a paper read before the American Institute of Electrical Engineers during the winter of 1907 it is stated that one of the best forms of the flames detector is a Bunsen burner using coal gas and having in its flame two electrodes, one of them (the lower) being a small platinum trough, and the upper a platinum point. The trough contains some alkaline salt and is so located in the flame that it is at a comparatively cool spot, yet is kept hot enough to continually vaporize the salt, while the "point," which may very well be a small (.001") platinum wire, is placed in the very hottest part of the flame, and kept from ⅛" to ⅜" above the trough. The salt preferred is potassium hydroxide, which may be bought in sticks at any drug store, and the flame must be kept well saturated with the gas from the vaporizing salt. The electrical circuits are connected as shown in the diagram, the polarity always being as there drawn. The battery, B, is arranged with a multiple point switch so that any voltage from six to thirty or forty (approximately) may be had in steps of one cell at a time. It is sometimes advantageous to have even a closer variation, since the voltage at which the flame is most sensitive seems to be very critical. This brief description will enable any reader to construct an operative "Flame-Audion" so there is no need of going into further detail. It will be found that the flame is wonderfully sensitive when properly adjusted, and that the only reason it cannot be used in actual wireless telegraphy as a commercial receiver is that it is impossible to maintain a steady flame under the usual operating conditions (at sea, for instance). Even in the laboratory, with a flame screened by a lamp chimney, it is exceedingly difficult to keep the gas column constant, and every draft of air registers itself as a sound in the telephones. However, the "Flame-Audion" will be found almost unbelievably sensitive at times, and the principle is well worth careful study. Some highly interesting further developments of the "gas detector" will be treated in a future paper, but much of the time until then might be well spent in constructing, testing and operating one of these novel flame receivers.

MODERN ELECTRICS, June 1908

Mailbox

Dear Jim,

I have been asked by the Jasper County Historical Society of Newton, Iowa to help locate a Continental Radio for their museum.

These radios were manufactured in the early to mid 1920's by the Continental Radio Company, which once operated in Newton. The Radio Collector's Guidee lists models BR, BRA, CELL, C-22, C-133 and Continental Five battery sets under this manufacturer. It also lists electric sets made in 1929, but it is questionable that this is the same company.

Enclosed is a newspaper clipping giving some history of this company.

If anyone has one of these sets to sell or any more information about them or where to locate one, I would appreciate hearing from them.

Sincerely,
Arie E. Breed
510 Lake Drive
Ottumwa, IA 52501
(515) 682-6925

CONTINENTAL RADIO 1922

When the great radio industry was born in the early 1920s, an entirely new channel of experimentation and development was opened and it became obvious immediately that an enormous market awaited the producers. With an Electrical Engineering background, Mr. Harry Ogg became deeply interested in this field and organized The Continental Radio Company for the manufacture of "sets." He brought in Mr. Carl Menzer who had done a great deal of experimenting with various types of radio equipment as Chief Designer. They were soon in production on a limited scale and their product gave good performance. Radios at that time were operated by storage battery and when the larger manufacturers came out with alternating current designs which could be plugged into a wall socket, the old sets became obsolete. Assisting in the manufacturing of Continental products were Mr. Percy Van Epps and Mr. Clifton Cammack. Mr. Menzer joined the staff at the University of Iowa where he has since served as a Professor of Electrical Engineering and Director of Radio Station WSUI. Mr. Ogg disposed of his interests to Mr. Earl Bigelow and Mr. Frank Wilson. This experience influenced Mr. Ogg to establish one of the first radio stations in Iowa. This was located in a residence property at 425 North 2nd Avenue East. At that time, revenues from advertising sponsors were very limited and the venture did not prove profitable. Had the license for radio station W-H-A-T been retained, it would have been very valuable.

A CENTURY OF PROGRESS
IN NEWTON IOWA
1961
by Ivan Woodrow

Telephony.

THE AMERICAN TELEPHONE JOURNAL

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Studying with Success.

Whoever wishes to study with success must exercise himself in these three things: In getting clear views of a subject; in fixing in his memory what he has understood; and in producing something from his own resources.—Agricola.

Efficiency of the Telephone.

"Oldest attaches of the White House regard President Wilson as the most methodical, systematic, time-saving chief executive within their memories," says a Washington dispatch of this week. Then it is related how he has religiously conserved his time. One of the statements made regarding the means of doing this is:

"Mr. Wilson uses the telephone very much on the theory that it shortens conversations and keeps the parties to the conversation to the subject intended."

So we learn that the holder of the highest office in this country has recognized the efficiency of the telephone. He uses it because he must, of necessity, in these times of great stress, maintain close association with his counselors in the conduct of the nation's affairs. They are readily accessible at any hour. That, in the face of the many sudden and startling developments of the past year, and especially the last few months, is a reliever of tremendous power. It takes away, to a considerable extent, the nerve strain incident to waiting for messengers to return. The President knows at once when the person summoned may be expected for conference.

Not only does the President utilize the telephone to a large degree, but it is being depended upon to aid in mobilizing the forces of the nation, should this become a necessity. The advantages of quick action in such an event cannot be estimated.

In Europe, the warring nations have discovered the value of the telephone. We are told that one of the first acts of the German officials upon learning of the severance of relations by this country, was to isolate Ambassador Gerard by cutting off his telephone connections. In the direction of the forces in the field, the telephone has had a most important part. In fact, it has won many a skirmish.

There is no question but that its use in commercial and social pursuits will be greatly increased, when peace comes, through the revelations in its utility as a result of its efficiency on the battlegrounds. Both in peace and war the telephone has demonstrated its efficiency.

When the world war is ended, we may expect a tremendous increase in its utilization in the foreign countries. The increase in this country in the last few years has been at the rate of approximately 10 per cent. annually. The saturation point has not been reached by any means. There is still opportunity for development along lines which have been scarcely touched. There will be increases in American telephone development in the next ten years, which will undoubtedly greatly exceed that of the last ten, for a new era is being entered.

A Thriving Industry.

"How's business?" is usually the second inquiry made when two men meet in a conference where matters pertaining to a particular industry are discussed.

This query was put to the representative of a big Independent telephone company at the recent meeting of the board or directors of the United States Independent Telephone Association in Chicago. A cheerful smile wreathed his face as he replied:

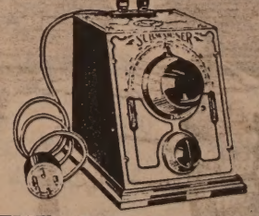
"Well, all I can say is this: In 1914 we bought $40,000 of telephone apparatus from a certain manufacturer. In 1915 we bought $80,000 from the same concern, and in 1916 we bought $120,000 from that firm, besides a lot from other Independent manufacturers.

So far in 1917, we have bought $110,000 worth of equipment and need a lot more right now. I think that answers your question, doesn't it?"

It did. Under fair conditions, such as the laws require in all industrial fields, business should be good in the Independent telephone line. We hope to see a decided improvement in 1917, and shall watch developments with interest.

1931

SHORT WAVE
WITH YOUR PRESENT RADIO



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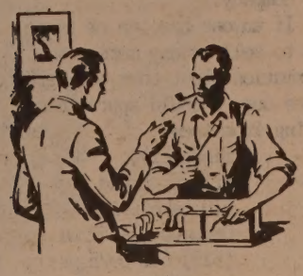

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HALF PAGE.....$45.00
QUARTER PAGE..$35.00
MULTIPLE RUNS....20% DISCOUNT

(lower price per square inch-- compare)

****

ATTENTION: CATHEDRAL COLLECTORS: Reproduction Philco model 20 grill cloth available through the add-a- page catalog. Send $5.00 for a year's subscription, 6 issues, to: ANTIQUE RADIO LABS, R 1, BOX 41, CUTLER, IN 46920.

****

SEND $1.00 AND LONG SASE with 3 stamps for 11 page list of cathedrals, tombstones, clocks, battery sets, speakers, midgets and tubes for sale. Richard Foster, 12 Shawmut Avenue, Cochituate, MA 01778.

****

SIGNAL CORPS, U. S. ARMY, transmitting tuning unit, model TM 26-B, serial no. 40244. Reasonable. Russell Schoen, route 1 Box 224, Clintonville, WI 54929. (715) 823-6744.

****

JUKEBOX COLLECIORS: SEND YOUR OPINIONS ON UNIVERSAL POWER TRANSFORMERS FOR REPAIR PURPOSES. RADIO ACTIVITY, 3453 BALSAM, NE, GRAND RAPIDS, MI 49505.

****

FOR SALE: I HAVE AVAILABLE A NEW ISSUE OF MY BALLAST TUBE HANDBOOK. 58 pages of technical data, lists over 1800 tubes, American and European. $7.50 postpaid. Anthony Jacobi, 8053 Maywood, Ralston, NE 68127.

****

S119 MIDGET HALLICRAFTER, new power transformer, also S120 $60.00 each. Postpaid. DON ALDRED, 39 East 8th Street, Jacksonville, FL 32206.

****

TRADE— MAGNADYNE DX-2 (Minneapolis) 3- dialer w/5 199's (ugc) for Tuska 225 junker(s) and Magnavox R38 driver. Dale Wilson, 105 1st Street, W., Jordan, MN 55352.

****

FOR SALE: BATTERY AND AC RADIOS, speakers. SASE (legal size) for price list with photos. N. Westphal, 2515 Rathbone Road, Lincoln, NE 68502.

****

*FOR SALE— RADIOLA VIII cabinet. FC $18.00, Set of Beitman manuals, RADIO 1926- 1950 plus 1948 TV, 11 manuals, $50.00 postpaid. Mark Oppat, 31800 Balmoral Drive, Livonia, MI 48154.

****

OLD WEBSTER CHICAGO MODEL 80 WIRE RECORDER. EXTRA REELS. MAKE OFFER. RUSSELL SCHOEN, R#1, CLINTONVILLE, WI 54929. (715) 823-6744.

****

FOR SALE: SEND FOR revised list of battery and AC radios. Enclose large SASE with 2 stamps. Donald Juleen, 6250 Ledge Road, Sturgeon Bay, WI 54235.

****

FORTY YEAR COLLECTION- TUBES- SEND LIST OF REQUIREMENTS FOR AVAILABILITY. JACKSON TUBE CHECKER. TEKTRONIX SCOPE MODEL 516 AND 561-A. INQUIRIES INVITED. M. LEVY, 4141 KRUPP DRIVE, EL PASO, TX 79902. (915) 532-2509.

****

FOR SALE- CATHEDRAL, battery and AC radios. List four times a year. Send S.A.S.E. J. Albert Warren, Box 279, Waverly, PA 18471.

****

FOR SALE TUBES, PARTS, KNOBS, DIAL BELTS, RIDER, HOWARD SAMS, RCA, PHILCO SERVICE MANUALS, VOL. CONTROLS, TUBE SOCKETS, TUBE TESTERS, SIGNAL GENS., PANEL METERS, 100'S OF OTHER ITEMS, NO LIST. WRITE WANTS. SASE FOR REPLYS. KRANTZ, 100 OSAGE AVE., SOMERDALE, NJ 08083.

****

FOR SALE: TUBES, PARTS, SCHEMATICS, custom power supplies. SASE for list to: Los Locos, 1201-74 Monument Blvd., Concord, CA 94520.

****

FOR SALE- ALL UNTESTED, PICK UP ONLY, WILL NOT SHIP. SCOTT LABS. CHICAGO 800-B CHASSIS AND POWER UNIT, NO SPEAKERS $75.00, E.H SCOTT RBO CZ6 4 BAND BC AND SW REC. HAVE (3) $75.00 EACH MADE FOR US NAVY. TYPE CMX 46155-A RADIO REC. 15 TO 600 KC $100.00, HALLICRAFTERS SX88 $150.00, MARCONI 6 BAND, MADE IN ENGLAND, PRE WWII, NEEDS REPAIRS $65.00, KRANTZ, 100 OSAGE AVENUE, SOMERDALE, NJ 08083.

****

FOR SALE- CATHEDRAL, BATTERY AND A.C. RADIOS. SEND SASE. J. ALBERT WARREN, BOX 279, WAVERLY, PA 18471.

****

DX CRYSTAL, ONE TUBE sets, kits, plans, handbooks, coils, supplies. Obsolete tube quotations. Catalog $1.00; none free. Laboratories, 1477-H , Garden Grove, CA 92642.

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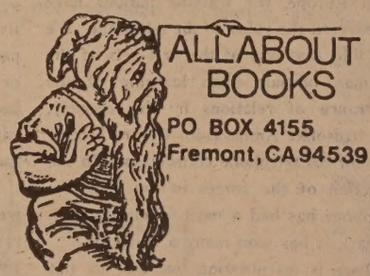

ALL ABOUT CRYSTAL SETS. New book by Charles Green shows you how to build crystal set radios. $7.95 ppd USA. ALLABOUT BOOKS, DEPT H, P. O. BOX 4155, Fremont, CA 94539.

****

FOR SALE — FOR SALE — SEE MY AD IN WANTED BUYERS (CASH), KRANTZ, 100 OSAGE AVENUE, SOMERDALE, NJ 08083.

****

FORTY YEARS COLLECTION TUBES, SEND LIST TYPES REQUIRED FOR AVAILABILITY AND PRICE QUOTES, LEVY, 4141 KRUPP DRIVE, EL PASO, TX 79902.

****

BOOKS ABOUT RADIOS, RECORDS, PHONOGRAPHS. Current titles: how-to-do-it, price guides, history, reprints, much more. 78 rpm supplies. Long SASE for 6 page list. The Sound Box, Dept. HS, Box 313, Ettrick, WI 54627.

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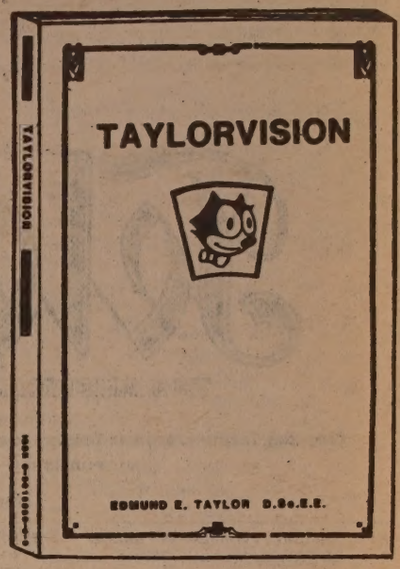

"TAYLORVISION" This exquisitely designed and illustrated monograph takes a look at one inventor's endeavors to combine technology of different decades to create a hybrid television system utilizing scanning discs and all solid state circuitry. Demonstration television images from the 1920's can be seen with the apparatus described in this sixty-four page softbound edition. Collectors will find this small volume to be an elegant jewel of a book, embellished with delightful textual ornaments from another era. Published in 1984 and available from the author - $4.98 postpaid. Dr. E. E. Taylor, 245 Oakland Avenue, Indianapolis, IN 46201.

****

FOR SALE— RADIOLA VIII cabinet. FC $18.00, Set of Beitman manuals, RADIO 1926- 1950 plus 1948 TV, 11 manuals, $50.00 postpaid. Mark Oppat, 31800 Balmoral Drive, Livonia, MI 48154.

****

FOR SALE: POWER TRANSFORMERS CUSTOM MADE TO YOUR EXACT REQUIREMENTS. BOOKLET OF 1930'S BRAND NAMES OF RADIO REFERENCED TO THEIR MANUFACTURERS, $2.95 POSTPAID. SCHEMATIC SERVICE SERVICE $2.50 PER MODEL POSTPAID. RADIO ACTIVITY, 3453 BALSAM N.E., GRAND RAPIDS, MI 49505.

****

SALE: QUALITY HARD COVER REPRINT OF "HIGH FREQUENCY APPARATUS" by T. S. Curtis, 269 pages plus

THE ANTIQUE RADIO CLUB OF ILLINOIS

PRESENTS

RADIOFEST '85

August 9th-10th, 1985

Clock Tower Inn - Rockford, Illinois

for more information contact:

Joe Willis

P. O. Box 14732

Chicago, IL 60614

appendix of 42 page 1920 catalog. $15.95 postpaid, guaranteed. Tesla Coil Builders Association, R3 B181, Glens Falls, NY 12801.

****

FOR SALE: ENTIRE REMAINDER OF MY 15 YEAR COLLECTION. RADIOS, SPEAKERS, PHONOGRAPHS, CYLINDER RECORDS, MICROPHONES, TUBES, SCIENTIFIC ITEMS, PARTS, BOOKS, EARLY FRAMED LITERATURE, ETC. ALL ITEMS CHOICE, SOME RARE. WILL SELL ALL OR INDIVIDUAL ITEMS. SEND S.A.S.E. FOR LIST. RICHARD CANE, 8391 N.W. 21ST SIREET, SUNRISE, FL 33322. (305) 741-6838.

****

FOR SALE- UNUSED AND USED radio and TV tubes and parts, S.A.S.E. for lists. C. Elmer Nelson, 11 S. Church Street, Princeton, IL 61356.

****

RIDERS RADIO AND TV SERVICE MANUALS. RCA, HOWARD SAMS - PHILCO - GE - TUBE TESTERS - SIGNAL GENERATOR, VOLT OHMMETERS, TUBES, PARTS — RADIO PHYSICS COURSE GHIRARDI 970 PP $9.00 - AUDELS NEW ELECTRIC LIBRARY 9 VOLS. - ALL - $20.00 — RADIO TROUBLESHOOTERS HANDBOOK BY GHIRARDI $25.00 - MALLORY TECHNICAL MANUAL $12.50 - PP AND INS. EXTRA. NEW LIST WILL BE OUT FEBRUARY 1985 - LARGE SASE WITH 2 STAMPS AND 75 CENTS — KRANIZ, 100 OSAGE AVENUE, SOMERDALE, NJ 08083.

****

INTERESTED IN A WHOLE ANTIQUE RADIO COLLECTION INCLUDING ABOUT A THOUSAND TUBES- LET'S WORK TOGETHER. CHESTER E. FRANZ, WONFA, #1 CHAROLIS DRIVE, BAY, MO 65041.

****

TUBES, SCHEMATICS, LITERATURE FOREARLY RADIOS. SASE FOR FREE PRICE LIST. SAM FAUST, CHANGEWATER, NJ 07831.

****

HALLICRAFTER'S - S-120 - ALSO S-119 Small THREE BAND SKY BUDDY, RCA MOTEL RADIOS, METAL CABINET SIX TUBE BC AND SW $60.00 EACH - RCA SEVEN-BAND PORTABLE 7BX10 $110.00 (COST $250 NEW).- EVERYTHING WORKS -6E5, 6K7, 1L6, NEW TUBES: NEW THORDARSON FLYBACK'S (1 THRU 176) YOKES Y-105, Y88, Y130-Y94 MOTOROLA'S, SHARP'S 110o $15 EACH. POSTPAID — DONALD ALDRED, 39 EAST EIGHTH STREET, JACKSONVILLE, FL 32206.

****

(2) RADIOLA 26 $225, $100, Radiola 25 w/loop, VG cabinet, needs rewiring $90, Radiola 20 rough $35.00, Radiola 24, fair $100, Radiola 16 good $85, RC vg $140, Radiola II G, no lid $160, Audiola EX needs audio $50, Homebrew, ——— audios, det., w/audion $130, AK 4 tube breadboard (tuner type) $385, Bob Avery, 3712 Glorieta NE, Albuquerque, NM 87111.

****

TAYLORVISION - Illustrated monograph depicts one inventor's endeavors to combine technology of different decades to create a hybrid television system utilizing scanning discs and all solid-state circuitry. Demonstration T.V. images from the 1920's can be seen with the apparatus described in this 64 page softbound edition - $4.98 Postpaid. Dr. E. E. Taylor, 245 Oakland Avenue, Indianapolis, IN 46201 (317) 638-1641.

****

SEND LARGE 2 STAMP S.A.S.E. FOR COMPLETE AND UP TO DATE PHOTO LIST. RON BOUCHER, 376 CILLEY ROAD, MANCHESTER, NH 03103. (603) 669-1698.

****

PHILCO CHASSIS 51, 51A, 52 OR 551. ALSO NEED WORKING RAINBOW 01A WITH BRASS BASE AND TIP. HAVE FOR TRADE 1917 QST'S AND PRE 1923 TUBES. - MICHAEL PAYNE, 601 E. COOMBS #10, ALVIN, TX 77511. (713) 585-4292.

****

FOR SALE. MUSIC MASTER SPEAKER. Rest. $100.00 A.K. 36, E speaker and type Y power supply w/t $125.00 A.K. 46 in secretary desk, cabinet, rest. $250.00 Crosleys, superhets and other battery radios for sale. SEND SASE for list. OLD RADIOS, 834-A West North Avenue, Flora, IL 62839 (618) 662-7556.

****

DATA AND MUTUAL CONDUCTANCE CURVES for early WE tubes. SASE for list. ED Clerkin, 1305 San Marcos Ct., San Luis Obispo, CA 93401. (805) 544-3088.

****

VINTAGE RADIO AND RELATED LITERATURE, all original. S.A.S.E. for list. Wanted A.K. cabinets for chassis model 84 and 90, will buy or trade. — Fothe, 10 Jackson Street, Sloatsburg, NY 10924.

****

FOR SALE — TUBES — MOST NEW IN BOXES. 866JR's, 723AB's, 1616's, 807's, etc. "APPROXIMATELY 100 TUBES" SEND S.A.S.E. FOR LIST. KEN FRANKENBERRY, 410 SADLER SIREET, POINT MARION, PA 15474.

****

TRADE — MAGNADYNE DX2 (Minneapolis) 3 - dialer, (VGC) w/5 199's for Tuska 225 junker(s) and Magnavox R3B driver. Dale Wilson, 105 1st Street West, Jordan, MN 55352.

****

FOR SALE — RIDERS PERPETUAL TROUBLESHOOTING MANUALS Vol. 1 - 18 plus Automatic Record Changer and Recorder Manual (printed 1941) and Vol. I Television plus various indices. All in very good condition except Vol. I and indices which are a bit worn but complete and quite serviceable. $250.00 or best offer. — Tom Rutherford, 159 State Road East, Westminster, MA 01473. Phone 1-617- 874-0096.

****

FOR SALE: McMICHEAL BRITISH 5 TUBE BATTERY SET with valves- mint $150.00. Gloritone cathedral $80.00. RCA T-6 AC flattop $50.00 (works). Gary Hill, 1507 Ridge Avenue, New Castle, PA 16101. (412) 654-9335.

****

FOR LIST OF RADIOS SEND S.A.S.E. TO STAN LAWSON, BOX 91, VILLA GRANDE, CA 95486.

****

FOR SALE EARLY SAMS PHOTOFACTS, 60 CENTS EACH POSTPAID. S.A.S.E. FOR LIST. Craig Lawson, 2122 45th Avenue, Minneapolis, MN 55421.

****

PHONOGRAPHS, OUTSIDE HORN, WORKING. Just $225.00 and up. Also musical items. S. Leonard, Box 127, Alberton, NY 11507. (516) 742-0979.

****

FOR SALE FORTY YEAR COLLECTION VACUUM TUBES. SEND LIST OF NEEDS FOR AVAILABILITY AND PRICE QUOTES. WANTED COPIES OF SHORTWAVE CRAFT BY HUGO GERNSBACK. M. LEVY, 4141 KRUPP DRIVE, EL PASO, TX 79902. APT. ONE.

****

FOR SALE: RIDER RADIO AND TV MANUALS. HOWARD SAMS, RCA, PHILCO, ZENITH, PLUS OTHERS, RADIO PARTS, TUBES, TEST EQUIPMENT. 8 PAGE LIST. 3/85 50 CENTS AND S.A.S.E. — KRANTZ, 100 OSAGE AVENUE, SOMERDALE, NJ 08083.

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SOCIAL EVENTS

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ALL OF THOSE AT THE ANTIQUE WIRELESS ASSOCIATION are looking forward to several meets this year including one in July at the Lauren Peckham Museum in Breesport. A.W.A. has several new displays including the original version of the Fleming valve in gallows mounting made in 1905. Lauren Peckham's address is: Ormiston Road, Breesport, NY 14816.

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VINTAGE RADIO AND PHONOGRAPH SOCIETY, an organization that is famous for its yearly conventions in the Dallas area. Also it publishes a journal approximately six times a year. Both phonograph and radio collectors are invited to join this society from all over the country. Dues are $13.50 a year. Write: Vintage Radio and Phonograph society, P. O. Box 165345, Irving, TX 75016. It is reported that Dallas VRPS Spring Auction will be held on Saturday, April 13.

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INDIANA HISTORICAL RADIO SOCIETY, 245 N. Oakland Avenue, Indianapolis, IN 46201.

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THE ANTIQUE RADIO CLUB OF ILLINOIS, one of the clubs that conducts large meets of national prominence in the Chicago area. For more information contact: Joe Willis, P. O. 14732, Chicago, Il 60614.

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WELCOME TO SEND IN AN AD ABOUT YOUR CLUB.

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NORTHWEST VINTAGE RADIO SOCIETY — Annual dues $12.50. monthly newsletter, THE CALL LETTER and monthly meetings. Write: Ed Charman, Northwest Vintage Radio Society, P. O. box 02379, Portland, OR 97202.

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ARIZONA ANTIQUE RADIO CLUB, a lately formed club that publishes RADIO NEWS, a quarterly bulletin with informative articles and ads. Annual dues are: $10.00 for a year. Write: Lee Sharpe, treasurer, Arizona Antique Radio Club, 2224 W. Desert Cove #205, Phoenix, AZ 85029.

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CALIFORNIA HISTORICAL RADIO SOCIETY is a popular group that

publishes a journal six times a year and provides swap meets four times a year for its members. CHRS, P. O. Box 1147, Mountain View, CA 94042-1147.

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***** IMPORTANT ANNOUNCEMENT *****RADIOFEST '85 IS MOVING TO FABULOUS CLOCK TOWER INN IN ROCKFORD, ILLINOIS. Easy access I-90 to Business Route 20 Exit. For reservations outside Illinois 1-800-358-7666. Illinois residents 1-815-398-6000. Date of convention: August 9-10, 1985. For more information write: Joe Willis, P. O. box 14732, Chicago, Illinois, 60614.

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SEND IN YOUR CLUB NEWS — EARLY

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ANTIQUE RADIO COLLECTORS AND HISTORIANS TO HOLD INTERNATIONAL CONVENTION — The Antique Radio Club of America (ARCA) will hold an international convention at Niagara Falls, New York, during June 5 - 8, 1985.

The Club has about 1,000 members who collect and restore antique wireless and radio equipment and who study and record the history of early radio. Antique radio buffs now collect all types of equipment from wireless equipment before World War I to sets of the forties and fifties.

Once a year the Club has a national convention sponsored by a local or regional group of collectors. This year the Niagara Frontier Wireless Association of Buffalo will be the sponsor.

Many visitors from Canada and overseas are expected to attend this first ARCA international gathering.

During the convention, there will be speakers, tours of radio collections and tours of the Niagara area. Highlight of the convention will be a massive flea market where radio collectors will swap and sell sets, parts, tubes and associated literature. Many will be looking for that missing tube or part necessary to finish the restoration of a favorite set. There will also be a large auction of radios and associated items.

The recreational and vacation opportunities in the Niagara Falls area, provide endless opportunity for those members of the collectors' family whose interests do not include "old radios."

Information on the convention and information on ARCA membership can be obtained by writing to NFWA, PO Box 68, Central Park Station, Buffalo, NY 14215. —— J. L. Troe, president.

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ANTIQUE RADIO DISPLAY at Pella Iowa.— Tulip Festival— May 9-10-11 1985. Many radios. for information call: Marion Van Hal (515) 628-2347.

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MID-AMERICA ANTIQUE RADIO CLUB, 9723 CARTER DRIVE, OVERLAND PARK, KANSAS 68212.

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THE SOCIETY TO PRESERVE AND ENCOURAGE RADIO DRAMA VARIETY AND COMEDY, P.O. BOX 1587, HOLLYWOOD, CALIFORNIA, 90078.

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HOUSTON VINTAGE RADIO ASSOCIATION, 6110 PECAN LANE, KATY, TEXAS 77449.

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WANTED

WANTED: PHILCO 37-60 CABINET. Will buy junkers to get restorable cabinet. Write Howard Granoff, 445 Lyttonsville Road, Silver Spring, MD 20910. (301) 585-8776.

WANTED CHASSIS FOR AK 90 OR 80. Cabinet for Philco 118. Vaughn Rudisill, 45 Lehigh Lane, Hicksville, NY 11801. (516) 681-4642.

WANTED: RCA PRERECORDED classical open reel tapes, 2 track stereo and 4 track quadraphonic. Write with list or request my want list. Carleton Sarver, 256 West 88th Street, New York, NY 10024. (212) 874-3529.

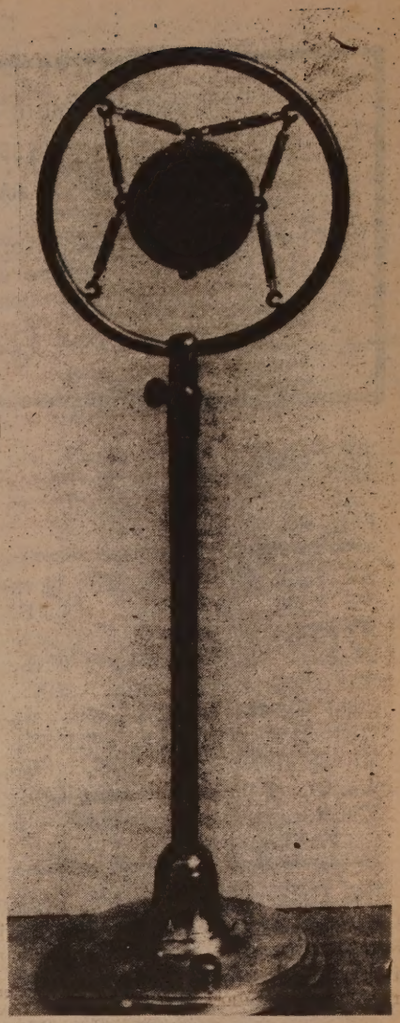
WANTED: RADIO NEWS (1925 - 26) article on building one tuber using three circuit tuner. Ed Lindberg, W2CIL, Bowmansville, NY 14026.

I WANT SOME UX-216 TUBES, ATWATER KENT MODEL - 36 IN EXCELLENT, ORIGINAL CONDITION, PRE- 1890 LIGHT BULBS THAT STILL BURN. I AM SELLING EDISON PHONOGRAPHS, MODEL - K EDISON REPRODUCERS, ORIGIONALS: $100 EACH. EXCELLENT REPRODUCTIONS, $65.00 EACH. - J. R. WILKINS, BOX 3442, ARLINGTON, TX 76010 OR (214) 298-5587.

WANTED: MANUFACTURING SERVICES FOR VINTAGE TV SCANNING DISCS. DISC MATERIAL SHOULD BE ALUMINUM ALLOY AT A THICKNESS OF NO MORE THAN 1/30" WITH A CERTAIN DEGREE OF FLEXABILITY IN ORDER TO RUN DEAD TRUE AT HIGH RPM. VINTAGE TV BUFFS WELCOMED. D'ARCY BROWNRIGG, P. O. BOX 292, CHELSEA, QUEBEC, CANADA, JOX 1NO.

COPY OF ANY INFORMATION ON A WWI BC 9 TRAN + REC. — FLOYD ENGELS, DAVIS ROAD, COLDEN, NY 14033.

SOME ONE WITH THE INSTRUCTION DATA FOR SUPREME RADIO DIAGNOMETER AAA-1 AND WILLING TO MAKE ME A COPY. I'LL PAY EXTRA FOR A GOOD CLEAR COPY. WRITE GERALD E. WEISS, N-89 W-16229 MAIN STREET, MENOMONEE FALLS, WI 53051.



MICROPHONES of this kind or any nice ones from 1920 to 1940's. Please send photo with prices to 1900-2000 gallery- 8, Rue Bonaparte- 75006 Paris France.

VINTAGE AUDIO TUBES AS 2A3 45's 50's W.E. 104B/D 205B/D 211D/E 242A/C 252A 262A 274A/B 275A 276A 284D 300A/B 301A 310A/328A/348A's OLDER- MESH 347A 349A 350B 351A VT2 VT4B VT25A VT52 D86326 D86327 WELcOMED — SHIGERU MIURA 5-14, 3 CHOME TOKIWADAI, ITABASHI-KU, TOKYO, JAPAN: NEW CONDITION PREFERRED

A. K. BREABOARD PARTS— VERT.- HORZ. COILS- 3 STAGE DETECTOR- AMPLIFIERS, RHEOSTATS- AF TRANSFORMERS AND CONDENSERS IN CANS. Dewitt L. Bills, 5237 Upton Avenue North, Minneapolis, MN 55430.

WANTED: A.K. 9, 10, Radiola SR., Aeriola Sr., Jr. All must be excellent. TADAYUKI YAMADA. 5-2-36 Tamadaira, Hino, Tokyo 191. JAPAN.

SWIRLED COLORED PLASTICS (CATALIN) WANTED. New collector wants bakelites, woods, table tops from 1930- 1950. Will pay $$ or trade used cameras. Harry Poster, Box 1883H, South Hack., NJ 07606. (201) 794-9606.

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classified ad

Please print and punctuate. Clip and Mail

THE HORN SPEAKER Box 53012, Dallas, Texas 75253

Classification _____

15 cents per word

Number of words ___Number of issues_____ Amount Enclosed ___

Important: Box number ads require name and address of advertiser

Deadline for ads is the 20th of the preceding month.

WANTED: SUPER ZENITH VIII in good or repairable condition. - R. Burick, 7656 Broadview Road, #328, Parma, OH 44134 (216) 886-5923.

WANTED: FARRAND MAGNETIC cone speaker, Browning Drake receiver, Peerless 9" dynamic speaker. R. McNeill, box 472, Yorkton, Sask., Canada S3N 2W4.

WANTED: 1. FREED EISEMANN advertisement material. 2. Cabinet for Radiola III. 3. Operating booklet for Radiola III and IIIA. 4. Radiola IIIA in good to mint condition. Thomas S. Estes, 5555 West Gulfbank #911, Houston, TX 77081.

WANTED: KARLSON SPEAKER ENCLOSURE IN RELATIVELY GOOD CODITION. MARK SKINNER, 1420 ANNA ROAD, PEKIN, IL 61554. (309) 353-1882.

WANTED: BRASS OR FANCY decorated paneled radios, fancy cathedrals, horns in excellent or mint condition, 1 tube sets and WD 11 tubes. Rod Stidham, 4011 South 286th, Auburn, WA 98001.

SCOTT COLLECTOR NEEDS SCOTT 12 two dial parts, escutcheon, knobs and cabinet. Wanted to buy Scott Philharmonic. Denis Yanko, 410 N. Summit, Oconomowoc, WI 53066, (414) 965-3641. Collect after 5:00 cst.

WANTED: VERY GOOD R.C.A. MODEL 103 SPEAKER. WILL PAY $90.00 FOR SPEAKER IF IN MINT CONDITION. LET ME KNOW WHAT YOU HAVE. WOULD LIKE TO BUY THE BEST ONE I CAN GET. QUOTE YOUR PRICE AND CONDITION. RON BURIZOS, 915 CRANE, DeKALB, IL 60115.

SCOTT: SCOTT RADIO COLLECTOR wants to purchase Scott Philharmonic, any version. Also, would anyone with a Scott Napier Consoltte, please contact me. I have a question concerning it. Denis Yanko, (414) 964-3641 collect after 5:00 cst., 410 N. Summit, Oconomowoc, WI 53066.

SPHERICAL or TUBULAR AUDION, #5514 transmitting tube. top for Radiola 106 speaker. Early light bulbs. Will buy or trade for tubes. Harbeck, 13408 Westwood Ln., Omaha, NE 68144.

WANTED: 1924 GOLDEN - LEUTZ 9 tube Super Pliodyne. also, any information on Raven Radio 12 tube superhet. Duane Bylund, 5133 West 5400 South SLC, Utah 84118, (801) 967-6987.

WANTED: SOURCE FOR ASTATIC OR RCA CARTRIDGE AND NEEDLE FOR 1950'S RCA PHONO. DAVID HAMMON, 1117 EAST FIRST STREET, LONG BEACH, CA 90802

BURNS PYRALIN SHELL AND RADIOLA UZ-1320 LOUDSPEAKER. DIAL FOR PHILCO 37-61. DALE WILSON, 105 1ST STREET WEST, JORDAN, MN 55352. (612) 492-6338.

WANTED: 1 TUBE SETS, CRYSTAL SETS, GREBE CR EQUIPMENT. RAY GARNER, ROUTE 1, BOX 320, BIG SANDY, TN 38221.

ELECTRO- MEDICAL AND QUACK DEVICES, BOOKS WANTED. INTERESTED IN FLOOR MODELS AND IN DEVICES WITH MULTIPLE KNOBS RESEMBLING RADIOS BUT WHICH ARE NOT RADIOS. I AM ALREADY SATURATED WITH VIOLET RAY DEVICES, SIMPLE 4D BATTERIES. PLEASE DESCRIBE AND PRICE. OLE LINDAN, 1404 DORSH ROAD, CLEVELAND, OH 44121

WANTED W. E. ELECTRON TUBES. I buy most everything the Japanese buy, plus a lot more they don't bother with. I pay more, pay faster and I'm easy to contact. Call or write with Anything of interest. Charles Dripps, 4331 Maxson Road, El Monte, CA 91732. (818) 444-7079

WANTED: ANY AND ALL INFORMATION on the "Radio-Pen" facsimile receiver by John V. L. Hogan, August 1934 Radio News. Anyone who owned and operated? D'Arcy Brownrigg, P. O. Box 292, Chelsea, Quebec, Canada, JOX 1NO.

We take liberty herewith to introduce ourselves as being a long establisher importer of antique mechanical music. ALWAYS WANTED: VINTAGE AND ANTIQUE RADIO, HORN

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Mladen Radojevic'
Leposava Rajnovic'
Virginia Russell
Lucy Curley Teresi
Dragen Terzioski
Dr. Vladislav A. Tomovic

Nick Basura
3414 Alice Street
Los Angeles, CA 90065

March 1, 1980

Dear Mr. Basura:

I want to thank you very much for all of the material you have sent us. It is of utmost importance that we pursue all of the things you have mentioned and tried to accomplish and in many cases have succeeded.

I am enclosing a copy of our By-Laows and Constitution and some other material that is of interest to you in your inquiries.

Firstly, our Archivist is my son Paul Kosanovich who will be only to glad to oblige you in the future relative to what we have done so far. I will keep you posted on what we are doing at the present and what we have planned.

I know William Jovanovich's past performance record relative to the Yugoslavs in America. You are correct about him.

The Yougoslav Cultural and Press center in New York is in contact with the National Portrait Gallery and will let us know of what has been accomplished. It is Savo Cvetanovski, the person who sent you a reply in response to your letter.

Enclosed is a copy of a letter sent to the University of Bridgeport in Connecticut. I hope that they do something about it. Dr. Malone who is one of our officers is also going to write a letter relative to ithis matter. He is very knowledgable on Tesla and is the Chairman of the Electrical Engineering Dep't at the University of Buffalo.

I am also enclosing an article in our largest paper which was printed last Sunday Feb. 24, 1980 on Tesla and his contribution to the chemical industry in the Buffalo area.

On the film that was made in Yugoslavia, we are going to have a world premiere of it with all of the actors and directors and with Orson Welles, Papich and others.

Mr. William Terbo(Trbojevich), our Honorary Chairman is working on the postage stamp question.

By the way, We celebrate his birthday every year at Niagara Falls. This year we shall have the movie and scientific papers read by Dr. Tomashevich, Dr. Michael Petrovich and by Dr. Malone.

I shall write to you again. We have signed up some people from the west coast into our Society. Eterovich and Dr. Wakeman from U. of California at Berkely.

Please write again and I shall also.

Sincerely,
Nicholas Kosanovich

SPEAKER, VINTAGE T.V., CATHEDRAL RADIO, GRAMOPHONES, PHONOGRAPHS, POLY PHONE, JUKE BOX, CRYSTAL SETS, MUSICAL BOXES, TYPEWRITER, SEWING MACHINES, TELEPHONES, WESTERN ELECTRIC AUDIO PRODUCTS, AMPLIFIER, DRIVERS, HORN AND SPEAKER SYSTEMS, ANY SPARE PARTS, OLD CATALOGUES AND POSTER, AND ALL OTHER OLD MECHANICAL ITEMS. TOP CASH PRICES PAID, Whole collection or single items. We will travel any where to collect, if you have them in hand. Please contact us with prices and photograph to: MR. PIPAT W. POOLPOL, 9 Soonthon Kosa Road, Klong toey, Bangkok 10110 Thailand. Tel. 2863947.

RCA AND AC A.K. CATHEDRAL in very good to mint. AC A.K. Kiel parlor table with original finish, with or without chassis; 5 Zenith knobs for farm radio, page 191 F.O.S., Jeff Vance, 1819 West Rovey, Phoenix, AZ 85015.

WANTED: PLUG-IN COILS, 4-5-6 PRONG TYPES, WITH GOOD WINDINGS, SINGLES OR SETS. BOB, W6ME, 4178 CHASIN STREET, OCEANSIDE, CA 92056

VU METER for Roberts Reel to Reel Tape Recorder Model 192HT or FT Part No. 54-13. Cecil E. Wallace, 1345 Oak Meadows, Dallas, TX 75232.

ATWATER KENT AK5, AK10, AK12, MAGNAVOX R2, R3, MEAPON CRYSTAL SET. WILL PAY HIGH PRICE IF GOOD CONDITION. 102 KOKUBUHIGHIS, 316-13 YAMAGUCHI, TOKOROZAWA-SHI, SAITAMA-KEN JAPAN.

AAA WANTED: I PAY SAME PRICES FOR all tubes listed by Japanese's ad and also look for Western Electric Amps, Mixers, Consoles, Drivers, Tweeters, Horns, Speakers, Parts, Etc., and Old Tannoy Speakers and McIntosh, Marantz Tube Type Amps. Tel. (818) 576-2642. David, POB 832 Montery Park, CA 91754.

WANTED - WANTED BUYERS (CASH) FOR A 45 YEAR ACCUMULATION AND COLLECTION OF OLD RADIOS, SPEAKERS, TUBES, PARTS, TEST EQUIPMENT, METERS, SERVICE MANUALS AND RADIO PAPER, MAGAZINES, A FEW TRUCK LOADS NO LISTS BUYER TO REMOVE AND TAKE ALONG. KRANTZ, 100 OSAGE AVENUE, SOMERDALE, NJ 08083. (609) 783-0400.

NEEDED: A COMPLETE ORIGINAL MAGNETIC "pickup", in as good an original working condition as is possible, for the electronic restoration of a 1929 R.C.A. Victor model no. RE-45 combination radio/ phonograph. David E. Smith, #40 Cortez Drive, Florissant, MO 63031-4121.

BURNS PYRALIN SHELL AND RADIOLA UZ-1320 LOUDSPEAKERS. Plastic dial scale for Philco 37-61. Dale Wilson, 105 1st Street West, Jordan, MN 55352.

WANTD: PILOT AC SUPER WASP WITH COILS, MUST BE IN GOOD CONDITION. CASH OR TRADE ATWATWER KENT BREADBOARD COMPONENTS. BOB HERBIG, W6ME, 4178 CHASIN STREET, OCEANSIDE, CA 92056.

WANTED: WORKING A-B-C BATTERY eliminator and home battery box for Radiola 26. Rod Stidham, 4011 South 286th, Auburn, WA 98001.

ARBORPHONE MODEL 27 COMPLETE IN ANY CONDITION OR CABINET, CHASSIS, PARTS, SCHEMATICS AND INFORMATION FOR USE IN RESTORATION PROJECT. WILL ALSO BUY OTHER MODELS OF ARBORPHONE RECEIVERS. Send details and prices asked to: P. A. Kinzie, 713 East Beale Street, Kingman, AZ 86401.

REPRODUCTION MODEL of original Philco 90 model style. Has cathedral cabinet and AM-FM. Contact W. Pregnall, 774 Woodward Road, Charleston, SC 29407.

WANTED - ZENITH RADIO SIGNS. DISPLAYS, ADVERTISING, ETC. PRE 1935. CALL MONDAY THRU FRIDAY. 8 TO 5. (312) 357-4955.

WANTED: OLD TUBE TYPE CITIZEN BAND radios complete, working or not. Gary Cappoen, Rt. 1 Box 131-A, Newberg, OR 97132.

RCA MODEL 813-K CONSOLE RADIO, Jim Coleman, P. O. Box 2758, Redwood City, CA 94064.

WANTED: TUNING CONDENSER for Philco model 60, also tuning dial and knobs. (715) 823-6744. Russell Schoen, R#1, Box 224, Clinton-ville, WI 54929.

WANTED: PILOT PARTS— AUDIOS 391 AND 390... E. A. SMITH, 2714 ALDEN, BALTO, MD 21234.

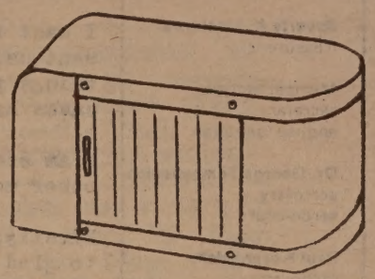
"GREBE PORTABLE, camera-radio portable and other unusual portables... writing historical paper. Also want WWI items, DeForest and fancy horns. Have some radios to sell (send SASE). Mel Rosenthal, 507 S. Maryland Avenue, Wilmington, DE 19804. (302) 994-0874."

— WANTED — HALLICRAFTER "SKY BUDDY" 1936 MODEL 5-T "FLICK OF THE SWITCH" PAGE 225. JACK WALLACE, 5516 GILBOW AVENUE, RIVER OAKS, TX 76114 (817) 732-5189.

B & W COAXIAL ANTENNA changeover relay model 377 or equivalent. Q. R. Galbraith, K5IVC, 4303 Kingsway Drive, Farmington, NM 87401.

NEED PARTS FOR MUSIC MASTER HORN SPEAKER, Nathan Francis, 2020 Hanover Circle, Beaumont, TX 77706.

WANTED: OLD TUBE TYPE CITIZEN BAND RADIOS COMPLETE, WORKING OR NOT. GARY CAPPOEN, RT. 1 BOX 131-A, NEWBERG, OR 97132.



WANTED — DICTOGRAPH SILENT RADIO. HAS REAR PLUG FOR PILLOW SPEAKER. SLIDING DOOR. LIGHT COLOR WOOD. MODEL 1320. ALSO CALLED FADA 263. KRIS GIMMY, 1441 NOTTINGHAM DRIVE, AIKEN, SC 29801. (803) 649-9795.

WANTED- SIX IVORY TABS for Zenith model 6S254. Tabs cover tuning selections, under push buttons. FOR SALE: Large amount of QST books. Will trade or sell very cheap. Also Zenith 5J255 model 6 volt or 110 volt. Russell Schoen, R# 1. Box 224, Clintonville, WI 54929. (715) 823-6744.

CROSLEY SKY BUDDY, Gary Hill, 1507 Ridge Avenue, New Castle, PA 16101 (412) 654-9335.

DECO, COLORED BAKELITES, Catalins wanted. Also need Riders "INSIDE THE VACUUM TUBE", plus chart for my Supreme tube Tester #589A. (I buy, sell and trade used cameras). Harry Poster, box 1883H, South Hack, NJ 07606. (201) 794-9606.

WANTED — RIDERS ONE THRU 10 AND LATER. (NOT 1 TO 5 ABRIDGED) FRED EMERSON, 627 ILLINOIS AVENUE, ELGIN, IL 60120.

HOWARD MODEL 500, 501 OR 501 DELUXE. Kennedy model 66, such as 266B, 366A, 366B, 766B, 866B. Also 16 tube superhetrodyne deluxe Kennedy. — Tom Peters, P.O. Box 3925, McAllen, TX 78502.

RIDER MANUALS Vol 3, 4, 5, 6, 8, 11, 12, 13, 15. — Volume 8 of Hawkins Electrical Guide, 1st edition 1914 and second edition 1917. — Early (1930's and before) test equipment and laboratory grade meters. —— Herbert Haas, 8516 Thunderbird Lane, Dallas, TX 75238. (214) 341-2708.

WANTED: RESTOREABLE CABINETS— Philco mod. 20, 70, 90 cathedrals. junker sets ok. Ben Boswell, 8607 Stillwood Lane, Austin, TX 78758.

WANTED: MAJESTIC RADIOS IN EXCELLENT CONDITION. Specifically want Majestic models 300, 320, 340 and 360. These were 11 and 12 tube sets manufactured in 1932, 1933 and 1934 by Grigsby-Grunow Company. No junkers please. Ralph Mathis, 108 Adams Avenue, Okolona, MS 38860. Phone (601) 447-2026.

GENERAL ELECTRIC VRII cartridge for 78 RPM. Advise Jose Fernandez, 208 Eleanor Roosevelt Street, Hato Rey, Puerto Rico 00918.

RADIOLA GRAND, PLUS COLORED AND SWIRLED THICK BAKELITES, CATALINS, ETC. NEED SCROLL FOR SUPREME 589A TUBE TESTER. Riders: "Inside the vacuum tube." Harry Poster, Box 1883H, South Hackensack, NJ 07606 (201) 794-9606.

WANTED: PILOT AC SUPER WASP PANEL IN GOOD CONDITION, OR JUNKER WITH GOOD PANEL. CASH. — NICK BALLI, 931 FALCONER LANE, ESCONDIDO, CA 92027.

VOLUME ONE, HINTS AND KINKS FOR THE RADIO AMATEUR, BY THE AMERICAN RADIO RELAY LEAGUE. K4LVZ, POB 562144, MIAMI, FL 33256.

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WANT GOOD RIDER'S RADIO VOLUME 4. WARREN KERNAGHAN, (816) 942-3615. 8:00 A.M. TO 9:00 P.M., 901 E. 108 STREET, KANSAS CITY, MO 64131.

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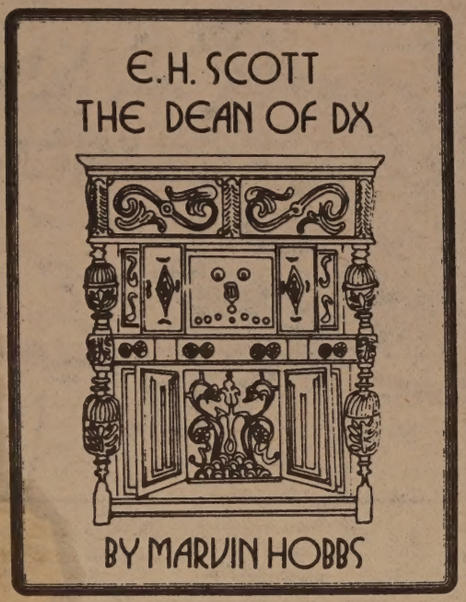

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